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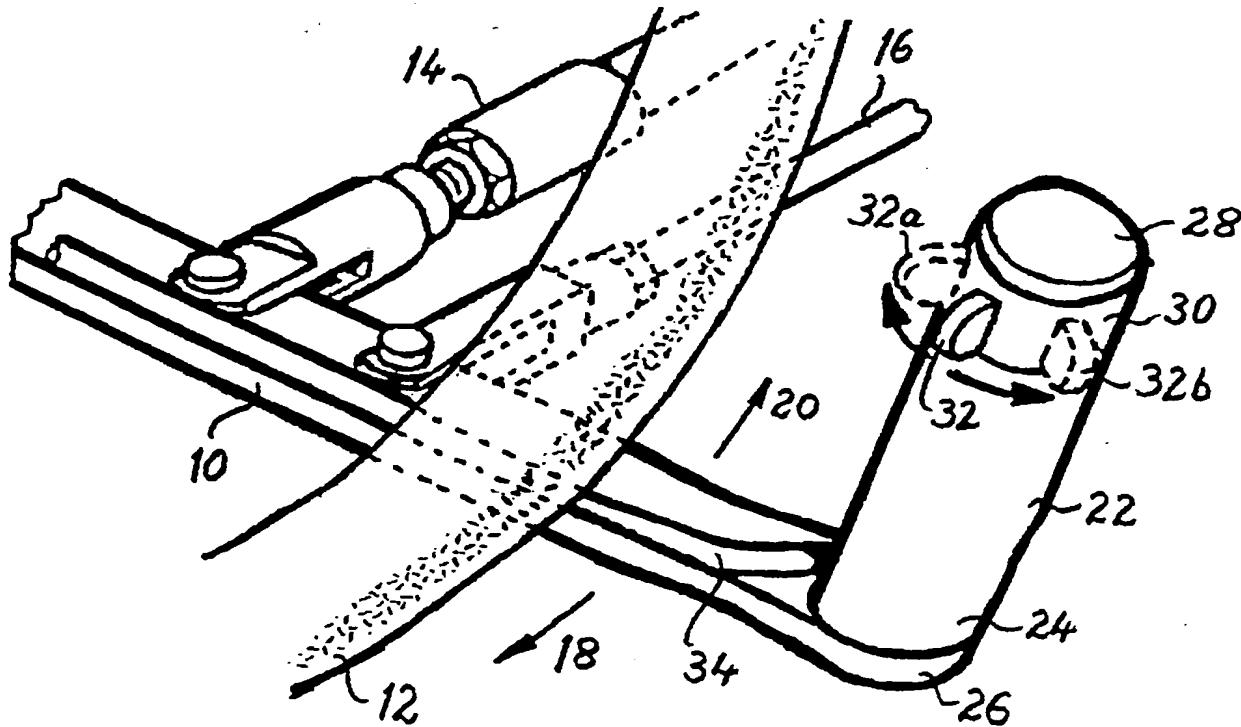
EP 0399896 A US 5029679 A US 4436191 A

(58) Field of Search

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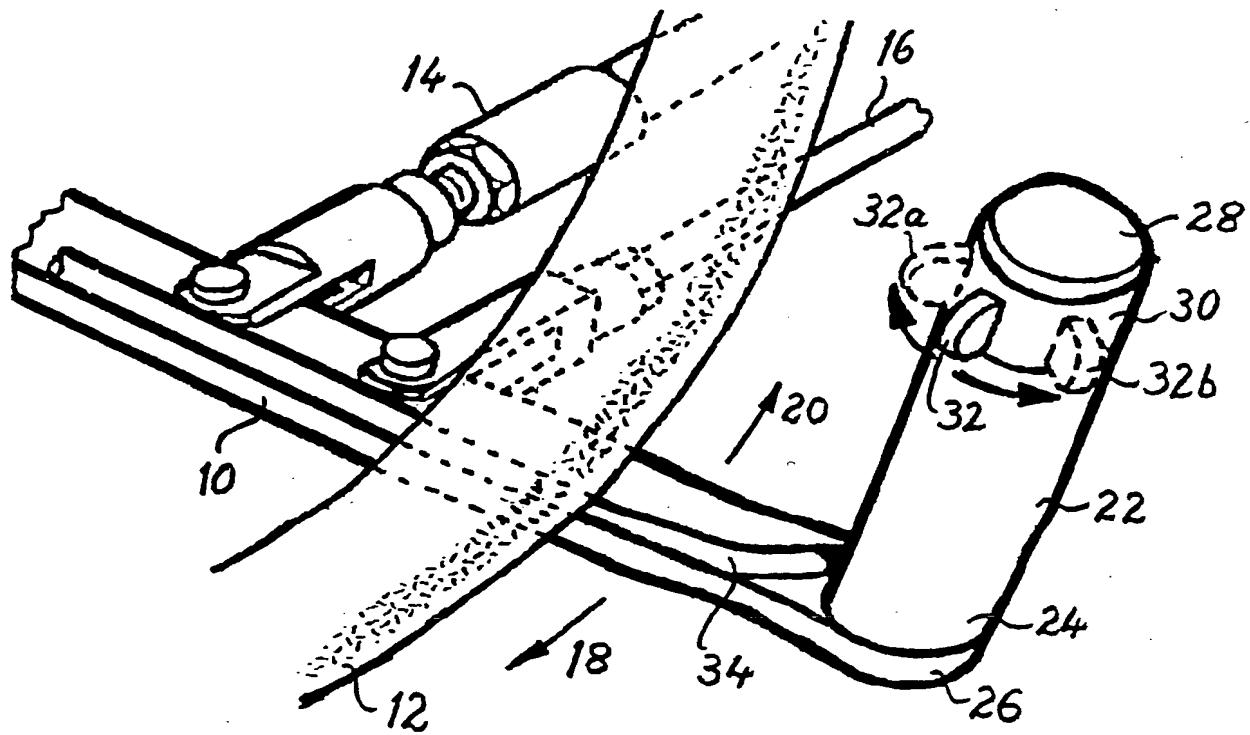
(54) Motor vehicle control devices for use by disabled drivers.

(57) The control device has a handle 22 mounted on one end of a pivotal control arm 10 for operating brake and accelerator linkages 14, 16, and a switch having a rotary actuator collar 30 with an actuator tab 32 mounted adjacent the free end 28 of the handle 22. The switch actuator is easier to operate, less liable to obstruct the driver's arms or clothing and more attractive than the known toggle switch which protects from the end of the handle.



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CONTROL DEVICES FOR MOTOR VEHICLES
FOR USE BY DISABLED DRIVERS

This invention relates to a control device for a motor vehicle
5 for use by a disabled driver.

More particularly, this invention is concerned with such a control device of the following general type. An arm has one end arranged to be pivotally mounted on or adjacent a steering column of the vehicle, and preferably the arm is mounted for movement in a plane generally parallel to the plane of the steering wheel of the vehicle.
10 At least one mechanism is provided for transmitting movement of the arm to control acceleration and/or braking of the vehicle. A handle is mounted at the other end of the arm and is arranged to be held by the driver to move the arm, and preferably the handle is generally parallel to the steering column of the vehicle. A switch is mounted on the handle for controlling an electrical circuit of the vehicle, such as a turn-indicator circuit. The switch has a movable actuator element within reach of the hand holding the handle, and preferably at or adjacent the free end of the handle.
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20 A control device of this type is already on the market and is known as an Alfred Bekker control device. In the known control device, the switch is a toggle switch having its actuator toggle projecting from the end of the handle. The toggle is not particularly easy to operate unless the spring in the switch is weak, and the toggle can easily be caught by the driver's arms or clothing when getting into or out of the vehicle. Furthermore the toggle switch is not particularly attractive.
25

In accordance with the present invention, a control device of the above-mentioned general type is characterised in that the actuator element of the switch is mounted for rotary movement around the axis of the handle. This enables the actuator element to be placed in a better position for operation by the driver's hand while holding the handle and to avoid accidental operation of the switch when getting into or out of the vehicle.
30

35 Preferably, the actuator element comprises a collar which is coaxial with and rotatable relative to the handle, and a tab which projects from the collar, thus having a pleasing appearance. In one

preferred embodiment, the exterior of the collar follows the lines of the exterior of the handle.

The handle may be fitted with a further switch, for example a push-button switch at the free end of the handle for operating for 5 example the vehicle horn.

A specific embodiment of the present invention will now be described, by way of example, with reference to the accompanying drawing which is a perspective view showing part of the control device.

Referring to the drawing, an arm 10 of a Alfred Bekker type 10 control has one end (not shown) pivotally connected to a bracket mounted underneath the steering column of the vehicle for movement about an axis generally parallel to the axis of the steering column, and the arm 10 extends in a plane generally parallel to the plane of the steering wheel of the vehicle, part of the rim of which is 15 designated 12. Two linkages 14, 16 are connected to the arm and transmit movement of the arm 10 as shown by the arrows 18, 20 to the brake and accelerator pedals, respectively, of the vehicle. A generally cylindrical handle 22 has one end 24 fixed to the other end 26 of the arm 10 and projects upwardly generally parallel to the axis 20 of the steering column. In the version shown in the drawings, the handle 22 is intended to be gripped by the right-hand of the disabled driver, but of course a left-handed version can also be produced.

A rotary switch is mounted in the handle adjacent the other, 25 upper end 28 of the handle and has an actuator collar 30 which is rotatable about the axis of the handle 22. An actuator tab 32 projects outwardly from the collar 30 in a position such that the tab 32 can be moved by the drivers thumb while holding the handle 22 from the position shown by the continuous lines in the drawing to the positions 32a, 32b shown by dashed lines. The switch is connected by a cable 34 30 to, for example, the turn-indicator circuit of the vehicle so that when the actuator tab 32 is in the positions 32a, 32b the left and right turn-indicators, respectively, are operated, and when in the continuous-line position the turn-indicators are off. The switch may be a model MA03 as produced by C & K Components Inc of Newton, 35 Massachusetts, USA.

Because the control device does not have a toggle which projects from the free end 28 of the handle 22, there is less risk of the switch

being accidentally operated, and, with the actuator tab 32 projecting from the side of the handle 22, it is in a better position for easy operation by the disabled driver. By having the tab 32 projecting from a rotary collar 30 which follows the lines of the handle 22, the 5 control device has a pleasing appearance.

Optionally, other switches may be provided on the handle 22: for example a further rotary switch next to the switch described above and/or a push button switch at the free end 28 of the handle.

The handle 22, switch, actuator 30, 32 and cable 34 may be 10 provided separately ready for fitting to an already-fitted control arm 10.

CLAIMS

1. A control device for a motor vehicle for use by a disabled driver, comprising:
 - 5 an arm having one end arranged to be pivotally mounted on or adjacent a steering column of the vehicle;
 - at least one mechanism for transmitting movement of the arm to control acceleration and/or braking of the vehicle;
 - 10 a handle disposed at the other end of the arm and arranged to be held by the driver to move the arm; and
 - a switch mounted on the handle for controlling an electric circuit of the vehicle and having a movable actuator element within reach of the hand holding the handle;
 - characterised in that:
- 15 the actuator element of the switch is mounted for rotary movement around the axis of the handle.
2. A control device as claimed in claim 1, wherein the arm is mounted for movement in a plane generally parallel to the plane of a steering wheel of the vehicle, and the handle projects generally parallel to the steering column of the vehicle.
3. A control device as claimed in claim 1 or 2, wherein the actuator element is disposed at or adjacent the free end of the handle.
- 25 4. A control device as claimed in any preceding claim, wherein the switch is arranged to control a turn-indicator circuit of the vehicle.
5. A control device as claimed in any preceding claim, wherein the actuator element comprises a collar which is coaxial with and rotatable relative to the handle, and a tab which projects from the collar.
- 30 6. A control device as claimed in claim 5, wherein the exterior of the collar follows the lines of the exterior of the handle.
- 35 7. A control device as claimed in any preceding claim, wherein a further switch is mounted on the handle.

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8. A control device for a vehicle, substantially as described with reference to the drawings.

9. A motor vehicle for use by a disabled driver and fitted with a
5 control device as claimed in any preceding claim.

Examiner's report to the Comptroller under
Section 17 (The Search Report)

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Relevant Technical fields

(i) UK CI (Edition L) B7H (HXC); F2Y (YCL, YTB)

Search Examiner

J L TWIN

(ii) Int CI (Edition 5) B60K 41/00; G05G 1/06

Databases (see over)

(i) UK Patent Office

Date of Search

(ii) ONLINE DATABASE: WPI

15 FEBRUARY 1993

Documents considered relevant following a search in respect of claims 1

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
Y	EP 0399896 A (RENAULT)	1
X, Y	US 5029679 (KIM et al)	1
A	US 4436191 (PERRY)	

SF2(p)

TP - doc99\fil000466



Category	Identity of document and relevant passages	Relev. to cl. (2)

Categories of documents

C: Document indicating lack of novelty or of inventive step.

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C: Document indicating technological background and/or state of the art.

P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

&: Member of the same patent family, corresponding document.

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